5. HOW WILL WE GET THERE?

Implementation Principles and Actions

The previous sections outlined the destination of the ITS Strategic Plan for the Central Coast – where we want to go. Section 5 describes how we plan to get there. It lays out a framework intended to guide the implementation of various aspects of the Strategic Plan. Additional guidance in the implementation of ITS Projects is provided in Volume III - ITS Project Implementation Guide.

## 5.1   THE IMPORTANCE OF PLANNING FOR IMPLEMENTATION

It is important to pay particular attention to the implementation of ITS Projects for several reasons:

> *Successful ITS applications depend to a great extent on the approach taken to provide day-to-day operation of the systems.*

Non-Traditional Approach. Because ITS is not a traditional area of transportation improvement, there tend to be more potential pitfalls and problems in the implementation and operation of ITS Projects. Fewer people in transportation departments tend to be familiar with electronics and technology as opposed to conventional roadway and infrastructure development. Success can be more "at risk" than in areas of transportation, which have a proven track record.

Operations. Successful ITS applications depend to a great extent on the approach taken to provide day-to-day operation of the systems. Project sponsors must have a plan for and devote resources to operations. They cannot take a "set it and forget it" approach. They must think
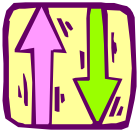
through not only how they will get a system running, but how they will keep it running, and how they will maximize its potential benefit.

Coordination. Most individual ITS applications will need to accommodate linkages to other systems. This will require a greater degree of coordination with other agencies than might normally be the case.

Funding. Opportunities for funding and implementation for ITS Projects are not as obvious as for traditional types of transportation improvements. In some cases, ITS applications may be best implemented as "add-ons" to conventional improvements and incorporated into the overall project design. In other cases, targeted funding needs to be sought for stand-alone ITS applications.

National ITS Architecture. Federal funding of ITS Projects will be contingent on projects being in conformance with the National ITS Architecture. This will require some degree of familiarity with the National ITS Architecture. Knowledge of ITS standards will also be required.

5.2 IMPLEMENTATION PRINCIPLES FOR THE CENTRAL COAST

The implementation of ITS Projects will be carried out by a broad cross-section of agencies: Caltrans, the CHP, and regional or local agencies across the five-county Central Coast Region. The private sector will likely implement yet another portion of the eventual ITS system (e.g. devices in vehicles, information systems, etc.). All of these systems must work together. For this to occur, the various agencies must understand their responsibilities in implementing certain parts of the system. This is particularly important for those portions of the system that are dependent on one another. This requires a game plan for implementation, or an implementation framework. This framework is founded on a set of guiding principles, as outlined below:

> *. . . implementation will occur to the extent that lead agencies take the initiative in project development and funding.*

1. In general, implementation will occur to the extent that lead agencies take the initiative in project development and funding. Caltrans will take the lead for projects on State highways. Local and Regional agencies will take the lead for projects on County and City roadways. Transit agencies will take the lead for projects related to transit systems. Lead agencies for
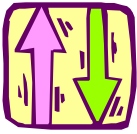
other projects, such as information-oriented projects that cross jurisdictional boundaries, will depend on the specific application.

2. An ITS Coordinating Group should be established to help guide the further planning and implementation of Central Coast ITS Projects. This group should meet on a periodic basis as determined necessary to provide input to issues pertaining to the design and implementation of the projects in the Central Coast ITS Strategic Plan. It should be a forum for assessing the status of strategic plan implementation and for working out Memoranda of Understanding (MOUs) that may be necessary for regional ITS Projects to succeed. Initially, members of the ITS Coordinating Group should include Caltrans District 5, Caltrans Headquarters (New Technology), California Highway Patrol, the RTPAs for each county, AMBAG, interested transit agencies, interested Air Pollution Control Districts, and FHWA/FTA. Other local implementing agencies would become involved as major projects are advanced to implementation.

3. Technical resources should be identified to whom agencies can refer for assistance in ITS project design, procurement, maintenance, and operations. These could be individuals within FHWA, FTA, Caltrans, or other agencies within California that are available to provide technical guidance on various facets of ITS implementation. Caltrans New Technology should serve as a clearinghouse on resources for local assistance.

4. A library of sample RFPs, design guidance, and procurement information should be developed that can provide guidance for development of bid documents for ITS procurement. Caltrans District 5 should serve as the coordinator of this activity initially, but drawing on information and experience available from other Caltrans districts, Caltrans Headquarters, and the California Alliance for Advanced Transportation Systems (CAATS).

5. Implementing agencies should develop management procedures for operation of ITS applications <u>before</u> they are procured. This should be done along with preparation of design documents. This will ensure that agencies have thought through how they will use what they are about to acquire, reducing the chance of misapplication, misunderstanding, or procurement of inappropriate equipment. Training budgets should be included with many ITS procurements. For information-oriented projects, agencies must ensure that there is a commitment to delivery of accurate and timely information.

6. Agencies in the Central Coast should participate in statewide efforts that could benefit ITS applications in the Central Coast. Letters of support should be provided for those statewide initiatives that will allow the Central Coast to deliver more cost-effective projects. The
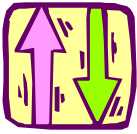
Central Coast ITS Coordinating Group should serve as a deliberating body on the proper course of action. Initially, AMBAG should serve as the channel of communications for this activity.

7. Agencies in the Central Coast should coordinate with other Caltrans districts to ensure effective and consistent operations across jurisdictional boundaries and optimum use of available resources for staffing and management. Caltrans District 5 should serve as the coordinating entity with other districts.

8. Agencies should be encouraged to implement additional or ancillary projects that are not necessarily included in the ITS Strategic Plan but that will benefit traffic management, emergency services, transit management, etc. This could include, for example, projects by the CHP, local law enforcement and emergency service agencies, and/or private entities to enhance regional communications systems.

9. A wide range of funding opportunities should be examined to build the regional ITS system over time. This could include consideration of opportunities in non-ITS construction projects to build portions of the ITS infrastructure. Agencies need to take a long-term view and anticipate opportunities for cost savings. Each implementing agency should examine potential projects in their capital programs to determine if ITS applications are appropriate.

10. Implementing agencies should ensure that a continuing source of operations and maintenance funding is available prior to procuring ITS Projects, especially for the proposed Central Coast TMC.

11. Implementing agencies should provide adequate public education for ITS initiatives that require public understanding for their effectiveness. This could include such items as providing information on ramp metering, allaying privacy concerns, and explaining procedures for using "Smart Cards".

12. The staging of projects and programs in the ITS Strategic Plan must be viewed as flexible enough to make adjustments to respond to funding opportunities and changing circumstances. This suggests that the Strategic Plan will need periodic updating, as described in the last section of this chapter. This will be a responsibility of the ITS Coordinating Group.

As indicated in Section 3, the intent of the Central Coast ITS Strategic Plan is to be visionary, but with a realistic expectation of what can and should be achieved. Part of the vision is to creatively and effectively use the resources expected to be available. The Strategic Plan describes the
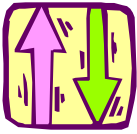
mechanisms by which the potential projects referenced in Section 3 can move forward. It also includes an assessment of the funding possibilities, schedule, and institutional arrangements.

It should also be noted that there has been no public review of the projects or strategies found in the Strategic Plan at this time. It is the expectation that this will occur as projects are included in Regional/Metropolitan Transportation Plans, Transportation Improvement Programs, Capital Programs, and other planning documents of State, Regional, and Local agencies. The projects will be subject to elected official decisions at all these governmental levels.
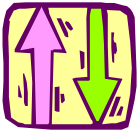
5.3 ACTION PLAN

There are a variety of actions that should be taken to move ITS implementation forward in the Central Coast. These are in support of the general implementation principles described earlier. Exhibit 5.1 lists a series of actions that should be taken following the approval of the Strategic Plan and the agencies responsible for initiation of those actions.

One of the keys to a successful, ongoing ITS program is having individuals who understand and can promote its objectives. The implementation of the Central Coast ITS Strategic Plan will require several individuals in key agencies who have this vision. They will need to possess or be supported by technical and management expertise that can deal with the specific challenges of ITS technologies and ongoing operations. Communications with technical staff at Caltrans and with technical staff in larger urban areas with ongoing ITS applications will be helpful in developing the expertise in Central Coast agencies.

Exhibit 5.1 - List of Actions and Agencies Responsible for Those Actions

| Action	Responsible Agencies				
	ITS Coord. Group	Caltrans District 5	RTPAs/ MPOs	Local Agencies	FHWA/ FTA
Incorporate ITS Strategic Plan elements into Regional Transportation Plans, Caltrans planning documents, Project Study Reports (PSRs), Short-Range Transit Plans, Route Circulation Reports, etc.		X	X		
Designate an ongoing oversight group to insure that ITS funding and implementation is moving forward in coordinated fashion. This group would meet on a periodic, as-needed basis.	X				

Exhibit 5.1 - List of Actions and Agencies Responsible for Those Actions

| Action	Responsible Agencies				
	ITS Coord. Group	Caltrans District 5	RTPAs/ MPOs	Local Agencies	FHWA/ FTA
Identify an ITS coordinator within each RTPA/MPO. This individual would be responsible for identifying potential funding for ITS Projects, monitor progress on project implementation, provide information to those within and outside the agency on ITS applications, and serve as a primary point of contact for inter-county coordination on ITS issues.			X		
Begin more detailed planning of the regional TMC as one of the first activities of the Coordinating Group. This would include funding discussions and development of a framework for an MOU.	X	X (jointly with CHP)			
Begin to identify specific funding opportunities for short-term projects	X			X	
Incorporate ITS considerations into program and project prioritization criteria, where applicable. This may include additional information on how ITS Projects will be considered in the applicable transportation program.			X		
As funding becomes available, incorporate projects into the appropriate Regional/Metropolitan Transportation Improvement Program.			X		
Collect information on ITS-related contracting to make available to agencies responsible for ITS Project implementation.		X	X		X
Proceed with ITS Project design and implementation, as funding becomes available.				X	
Maintain a log of ITS Projects in the transportation programs of regional and local agencies and Caltrans and distribute that information at least on a biannual basis.	X				
Include information about ITS in agency outreach efforts for transportation, particularly outreach associated with the Regional/Metropolitan Transportation Plans.		X	X		
Provide updates of information on ITS Project conformance with the National ITS Architecture					X
Support statewide ITS Projects, legislative changes, or other public/private statewide ITS initiatives, as appropriate, to foster ITS implementation in the Central Coast.	X	X	X	X	
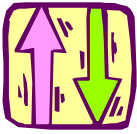
5.4   TRANSPORTATION AGENCY FUNDING OPPORTUNITIES

The successful implementation of the ITS Strategic Plan will largely depend upon the availability of funds. Beyond the initial funding for program implementation, a critical factor to the success of ITS will be the continued availability of funding for operations and maintenance. The implementation of ITS elements for the detection, surveillance, and management of transportation will necessarily increase the operations and maintenance demands of those agencies responsible for transportation. Appendix F describes some of the opportunities for funding available for ITS in the Central Coast. Appendix F summarizes some of the funding opportunities by identifying the modes to which each funding source applies and whether ITS Projects are eligible. This can be a starting point for the pursuit of funds.

There are several possible strategies for pursuing ITS funding in the Central Coast. Because of the diverse multi-modal, multi-jurisdictional nature of ITS, it is usually found that funding must be pursued along multiple tracks simultaneously. An individual project may require multiple sources of funding. Elements of this multi-dimensional strategy could include this following:

1. Use of Surface Transportation Program (STP), National Highway System (NHS), Statewide Transportation Improvement Plan (STIP), State Highway Operational Protection Program (SHOPP), Regional Transportation Plans (RTPs), Office of Traffic Safety (OTS), and Measure (i.e., local sales tax) funds as opportunities arise for ITS to be implemented alone or included as an integrated element of other projects. In some cases, ITS elements can be included as part of traffic management for construction projects, with the opportunity to maintain operation of the equipment following construction or to use it on other projects [e.g. in the case of portable changeable message signs (CMS)].

2. Funds budgeted by Caltrans for operations (District 5 is eligible for a portion of these funds each year).

3. Development of a local incentive match program for ITS using STP, CMAQ, and Measure funds. Criteria could be established by RTPAs for local agency submission of ITS Projects that, ideally, have both congestion and air quality benefits. Similar match programs may be established to coincide with other funding sources such as those for safety-related improvements.

4. Working cooperatively with Caltrans to secure other state funds. Again, the RTPAs should serve as coordinators of these applications to have the best chance of bringing the most funds into the five-county area.

5. Earmarked demonstration project funding, requiring unsolicited proposals directly to FHWA and FTA. These would be coordinated through legislators or through applications processes established through U.S. DOT.
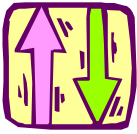
6. Operational test funding through FHWA and FTA via unsolicited proposals or responses to their initiatives.

7. Cooperative funding with the private sector. The most significant opportunities are in the provision of traveler information. Examples could include private installation or leasing of information kiosks, privately initiated information services through pager technology or FM-subcarrier, or private financing of CCTV cameras at key locations of interest to the media. Private financing of motorist aid service patrols is also possible.

The actual pursuit of the various funding sources will be the responsibility of each lead agency, in conjunction with the ITS Coordination Group established for the Central Coast.

5.5 UPDATING THE STRATEGIC PLAN

The Central Coast ITS Strategic Plan should be a living document. This is particularly important in light of the rapid pace of change in technology. The Strategic Plan presents an overall framework, but decisions regarding the best timing and technical approaches for projects must be responsive to conditions that exist at the time when the decisions are being made. The Central Coast Regional ITS Architecture is designed to be a common thread that allows for a logical, systematic approach to building an integrated ITS. It is the framework that ties the system together geographically and over time. Within that framework, there is substantial flexibility to make adjustments based on emerging directions and innovations in technology and on the changing needs of transportation in each area. The Strategic Plan cannot be constantly updated to keep pace with these changes. However, the following strategy will allow agencies to make the necessary adjustments to foster continued coordination and maintenance of the essential elements of the Strategic Plan.

1. Maintain a centralized log of ITS Projects that appear in individual agency transportation programs (e.g., RTP, STIP, STP, etc.). This will foster coordination among projects and provide a type of "status report" on progress. Exhibit 5.2 is a recommended sample format. The log should include projects in adjacent regions (e.g. the Greater San Francisco Bay or Los Angeles/Ventura areas) that are relevant to the Central Coast.

2. Update the ITS Project descriptions contained in Appendix E. This could include revisions to existing projects or new project descriptions. An agency needs to be designated as the clearinghouse for ITS Project descriptions. This responsibility can be rotated periodically.

3. Conduct a periodic review and update of information in the Strategic Plan. It is suggested that this be done on a cycle similar to updates of Regional/Metropolitan Transportation Plans (i.e. three years). Particular attention needs to be given to the inclusion of new/revised ITS
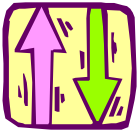
Projects and updates of the Regional ITS Architecture. In this respect, the updates will be similar to those conducted for other types of transportation strategies, such as short-range transit plans, highway plans, and bicycle plans, but the update cycle may be more frequent because of the pace of change.

4. Update the Action Plan, reflected in Exhibit 5.1, on an annual basis. As progress occurs, the action plan can become more specific.

Responsibility for these updates needs to be identified, but may be passed from one agency to another on an agreed-upon cycle.

Exhibit 5.2 - Sample Format for Maintaining Regional Project Status List.

Project Title	Lead Agency	Project Description	Project Location	Planned Construct.	Funding Sources	Arch. Conf. Status.
Changeable Message Sign	Caltrans District 5	Install CMS on SR 46	SR 46 west of SR 41	2002	CMAQ/STP	OK
Signal Priority	SLO Transit	Install signal priority system along	Higuera in SLO urban	2001	CMAQ	In-progress
Others…						